

ABSTRACT

According to one exemplary embodiment, a method for forming a field effect transistor over a substrate comprises a step of forming an interfacial oxide layer over a channel region of the substrate, where the interfacial oxide layer has a first thickness.

- 5 The interfacial oxide layer can prevent a high-k element from diffusing into the channel region. The method further comprises forming an oxygen-attracting layer over the interfacial oxide layer, where the oxygen-attracting layer prevents the first thickness of the interfacial oxide layer from increasing. The oxygen-attracting layer is formed by forming a metal layer over the interfacial oxide layer, where the metal layer
- 10 combines with oxygen to form a silicate. The oxygen-attracting layer may be zirconium silicate or hafnium silicate, for example. The method further comprises forming a high-k dielectric layer over the oxygen-attracting layer. The method further comprises forming a gate electrode layer over the high-k dielectric layer.

- 15 **Figure 4 should accompany the Abstract.**